



# FlipFactory<sup>®</sup>

## USING STYLESHEETS IN FLIPFACTORY

This App Note applies to FlipFactory versions 7.0 & later

Synopsis ..... 2

Using Stylesheets in FlipFactory..... 3

Utility and Third Party Stylesheets ..... 5

Utility Stylesheet Workflow Example ..... 6

Third Party Stylesheet Workflow Example ..... 8

Copyright and Trademark Notice..... 10

Limited Warranty and Disclaimers ..... 10

# Synopsis

XML files are commonly used to define and contain external metadata for video and audio media files. XML files are typically paired with a specific media file, and are often referred to as sidecar files in FlipFactory. During job processing, FlipFactory factories can be configured to ingest and process these sidecar files to implement certain workflow requirements.

Sidecar file processing is performed by specifying a *stylesheet* - an XSL file that transforms XML content into a different format or renders new XML files. Each stylesheet is designed to perform a specific task on the XML file it is designed to process.

You can utilize XML files to accomplish two goals in a FlipFactory job:

- Dynamically modify how FlipFactory transcodes media (using a specific utility stylesheet), based on the unique metadata values in the associated XML file
- Transform the metadata into a different format required by you or a third party vendor (using a specific third party stylesheet), saving the transformed metadata as an XML file along with the output media.

Utility stylesheets enable you to modify jobs based on the stylesheet selected, including tasks such as: insert labels, pass through, and package sidecar. Third party stylesheets are used to modify the format of the metadata in the XML file to meet a specific vendor's format requirements. Typical third party providers include: AOL, iTunes, and Podcast.

FlipFactory provides a base set of stylesheets for use in a variety of workflows, which you may be able to use without change. However, you may need to use a particular stylesheet as a template that you copy, rename, and modify to alter the functionality to suit your purposes. Or, you may need to design and create your own stylesheet. FlipFactory customers are encouraged to make minor modifications to the existing stylesheets to meet their needs. If a new stylesheet is needed, or an existing stylesheet is too difficult to modify, Telestream may be able provide the solution for you. Contact your Telestream Customer Support Representative for details.

**Note:** *Note: Be sure to use a person familiar with XML and XSL languages, and skilled in the art of XSL programming to modify or develop stylesheets for use in FlipFactory.*

The topics in this app note include: how to use FlipFactory stylesheets, a description each of the utility and third party stylesheets, an example of a utility stylesheet workflow, and an example of a third party stylesheet workflow.

**Note:** *This app note assumes you know how to create and configure factories in FlipFactory and how to submit jobs. Review the FlipFactory User's Guide for details.*

# Using Stylesheets in FlipFactory

FlipFactory stylesheets provide a means by which a user can modify or add metadata to the FlipFactory transcoding process.

## Modifying How FlipFactory Process a Job via XML

To use an XML file to control how to process the associated media file, you should:

1. Define a metadata label and supply the parameter values in the XML file that is submitted to FlipFactory when the job is processed.
2. In the factory, add a metadata-capable monitor and configure it to meet your workflow requirements, including specifying which utility stylesheet to process the XML for use in the job. FlipFactory monitors can be setup local (Local Folder + Metadata) or remote (Network Folder + Metadata).

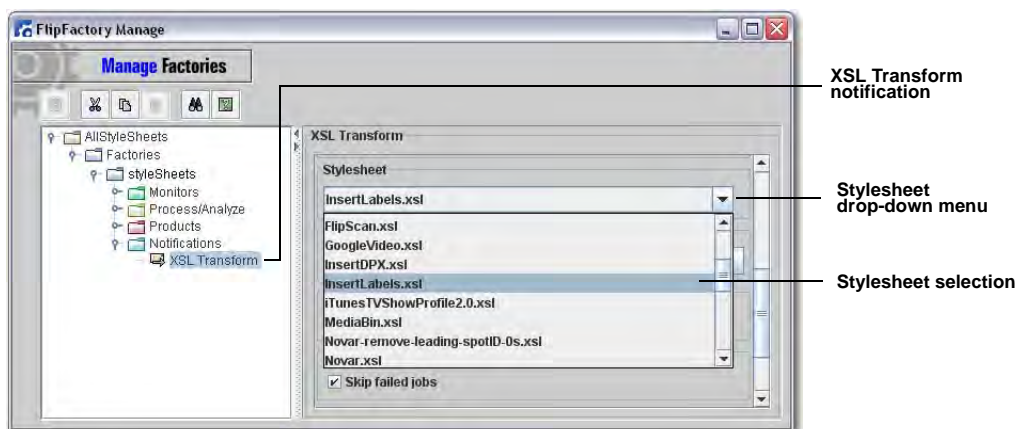
## Transforming Metadata into a Different XML File

To transform the incoming metadata in the XML file into a different format required by you or a third party vendor and save it as an output XML file along with the output media, you should:

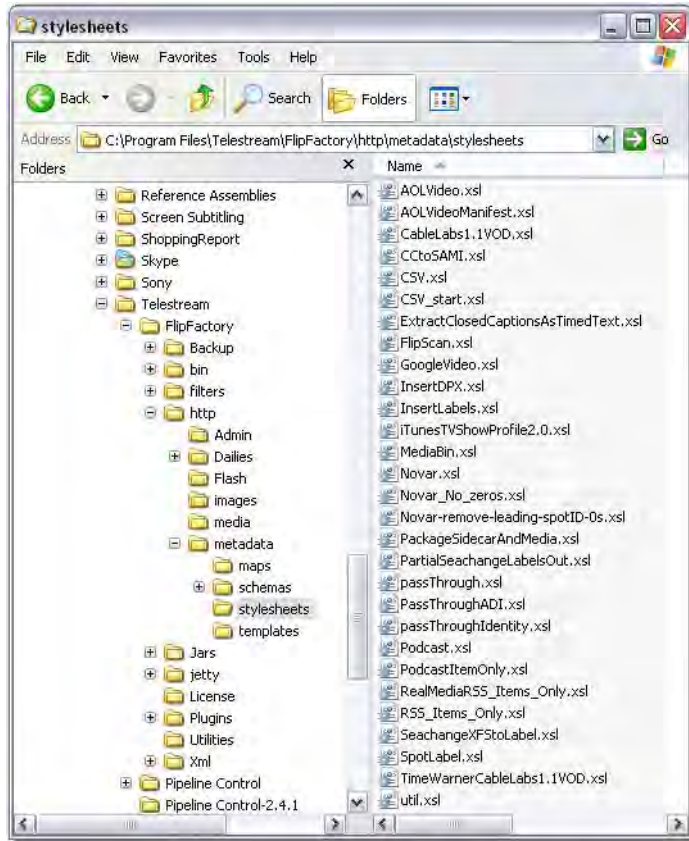
1. Define a metadata label and supply the parameter values in the XML file that is submitted to FlipFactory when the job is processed.
2. In the factory, specify a *local or network monitor* and configure it to meet your workflow requirements, but do not assign a stylesheet to transform it.
3. Also add an XSL Transform Notification to the factory, and configure it to meet your workflow requirements, including which third party stylesheet to transform the metadata content into the required format.

## Locating and Adding Stylesheets

XSL stylesheets are selected in the *Notification* stage of a FlipFactory workflow. All available stylesheets are listed in the *Stylesheet* drop-down menu in the configuration of the *XSL Transform* notification:



All XSL stylesheet files are located in `C:\ProgramFiles\Telestream\FliFactory\http\metadata\stylesheets\` as shown below:



New stylesheets can be added to FlipFactory by placing them into the stylesheets directory. The FlipFactory engine must be restarted to update the list.

# Utility and Third Party Stylesheets

FlipFactory stylesheets are available as utility (monitor stage) or third party (notification stage).

## Utility Stylesheets

The following table lists all utility stylesheets provided through a monitor:

XSL File Name	Description
CCtoSAMI.xsl	Converts FlipFactory internal CC format to SMI format to produce .smi files
CSV.xsl	Produces metadata specific to the job (i.e. output file name, etc.)
CSV_start.xsl	Produces metadata specific to the job (i.e. output file name, etc.)
ExtractClosedCaptionsAsTimedText.xsl	Converts FlipFactory internal CC format to a timed text format to produce .smi files
FlipScan.xsl	Produces FlipScan metadata of source file attributes when FlipScan is active
InsertDPX.xsl	*
InsertLabels.xsl	Inserts lab-Is to modify behavior of FlipFactory (i.e. playback trim, etc.) on a job-by-job basis
MediaBin.xsl	Produces xml files consistent with Media Bin
Novar-remove-leading-spotID-0s.xsl	Produces metadata for Ad Manager workflows
Novar.xsl	Produces metadata for Ad Manager workflows
Novar_No_zeros.xsl	Produces metadata for Ad Manager workflows
PackageSidecarAndMedia.xsl	Produces bitmaps used for coverflow images and metadata
PartialSeachangeLabelsOut.xsl	Automatic non-typical workflows that combine FlipFactory and SeaChange metadata labels
passThrough.xsl	Acquires metadata label sections of the MDL and saves them to disk
PassThroughADI.xsl	Acquires ADI labels
passThroughIdentity.xsl	Acquires metadata label sections of the MDL and saves them to disk
RealMediaRSS_Items_Only.xsl	*
RSS_Items_Only.xsl	*
SeachangeXFStoLabel.xsl	*
SpotLabel.xsl	Exports spot labels
util.xsl	General purpose utility stylesheet

\* Legacy use only -- stylesheet no longer supported

## Third Party Stylesheets

The following table lists all third party stylesheets provided through the FlipFactory notification:

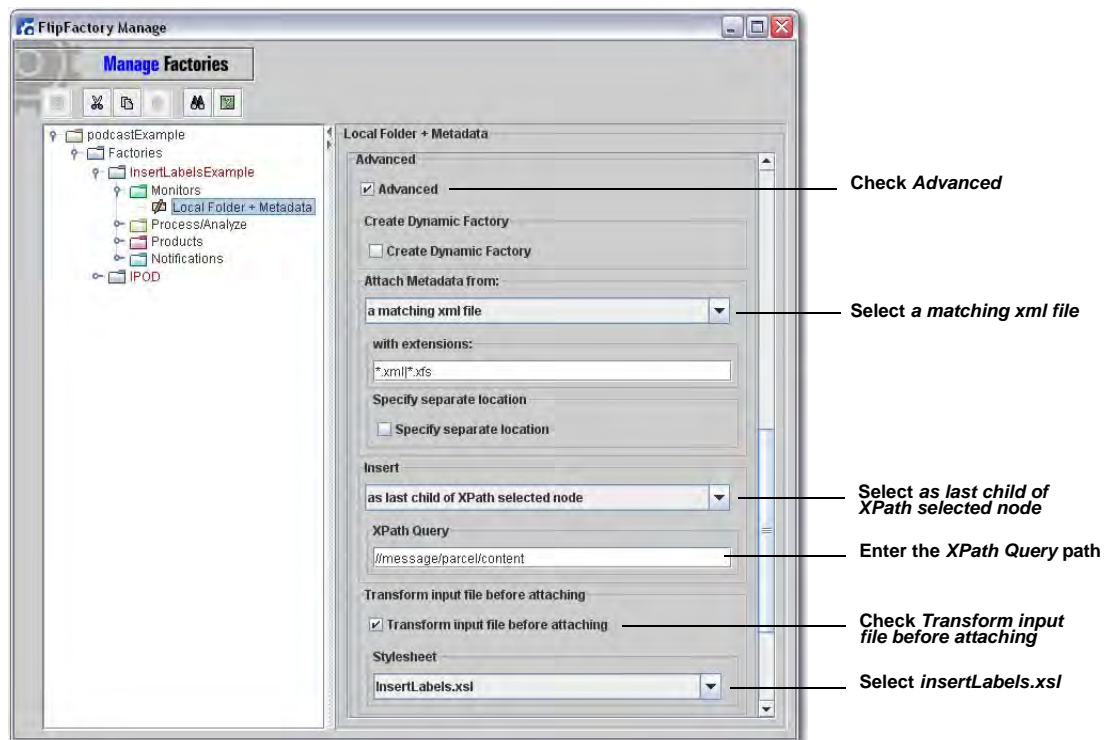
File Name	Description
AOLVideo.xsl	Supports special AOL required video formats
AOLVideoManifest.xsl	Supports special AOL required video formats
CableLabs1.1VOD.xsl	Cable Labs proprietary VOD format and specification
GoogleVideo.xsl	Metadata format for Google
iTunesTVShowProfile2.0.xsl	itunes format
Podcast.xsl	Generates Podcast xml's
PodcastItemOnly.xsl	Generates Podcast xml's
TimeWarnerCableLabs1.1VOD.xsl	VOD with specific attributes in the XML

# Utility Stylesheet Workflow Example

This example uses the *insertLabels.xsl* stylesheet, which is applied in the monitor stage. To create a utility stylesheet workflow, follow these steps:

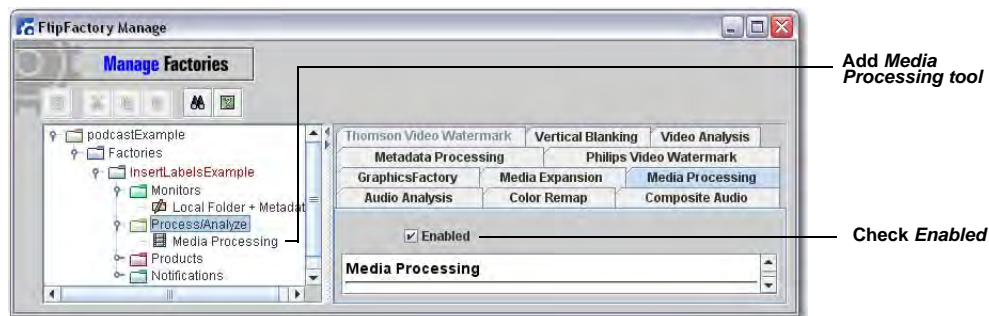
1. Create a new factory and add a *Local Folder + Metadata* monitor. Check *Advanced*, select a *matching xml file* to cause the monitor to wait for an XML file with a name that matches the input media file before submitting the job.
2. Select *as last child of XPath selected node* to insert the XML metadata into the last location in the job message. Enter a valid XPath query in the *XPath Query* field. This inserts the metadata as a replacement of XPath selected node, where the transformed XML replaces the node specified by the XPath. (Consult the FlipFactory online help for details.)

Check *Transform input file before attaching* and select *insertLabels.xsl* as the stylesheet:

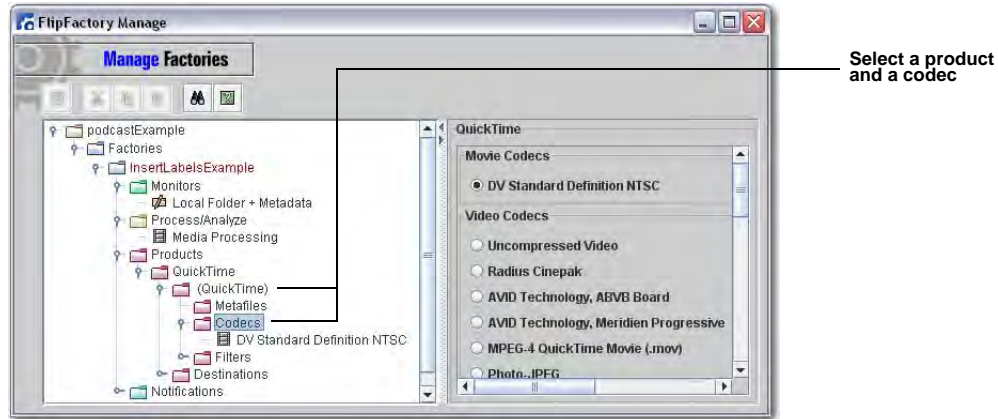


**Note:** Please consult the FlipFactory on-line help to determine what configuration values are needed for your particular application.

3. To add a Process/Analyze tool, select the *Media Processing* tag and check *Enabled*. This P/A tool is required to process the labels provided in the input XML metadata file:



4. Select the product and codec to transcode the input media file. During transcoding, the input media file is modified according to the labels defined in the input XML metadata file (i.e. playback trims, house identifiers, etc.):



5. Add a destination to specify where the resulting media file will be saved, then submit a media and matching XML file to the monitor folder to start the transcoding process. The result is a media output file that has been transcoded based on the input XML file, the XSL file selected, and the product used for transcoding.

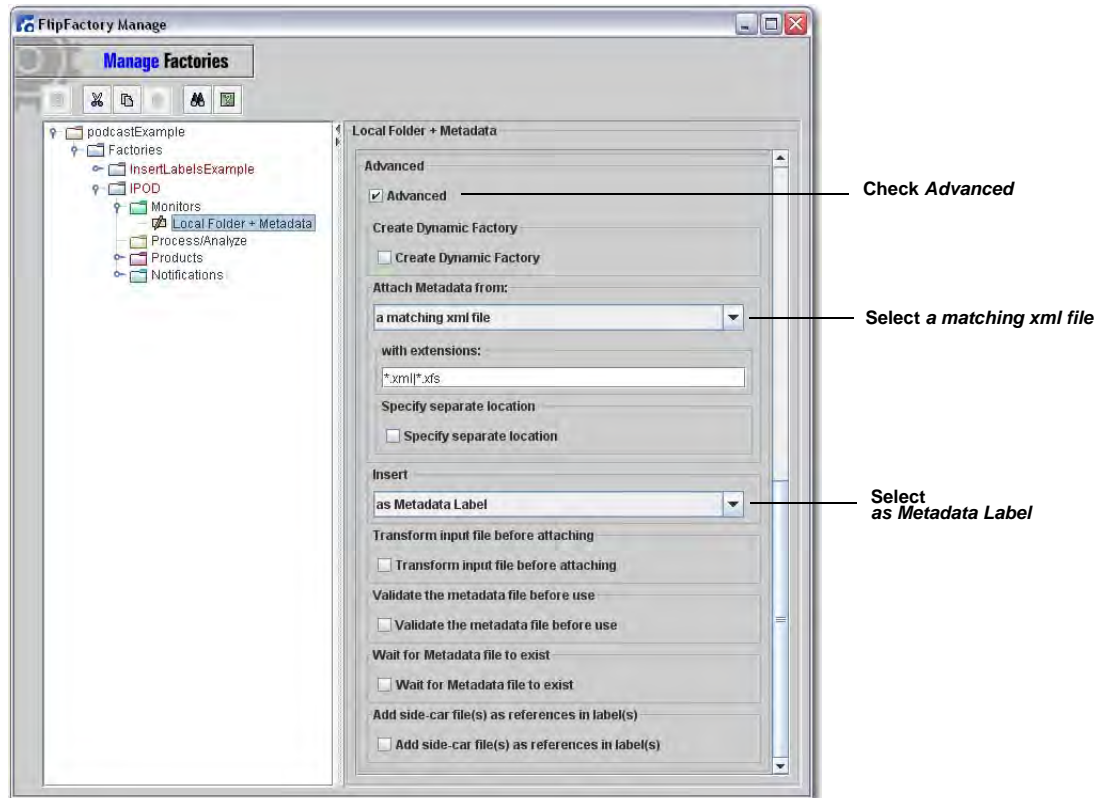


# Third Party Stylesheet Workflow Example

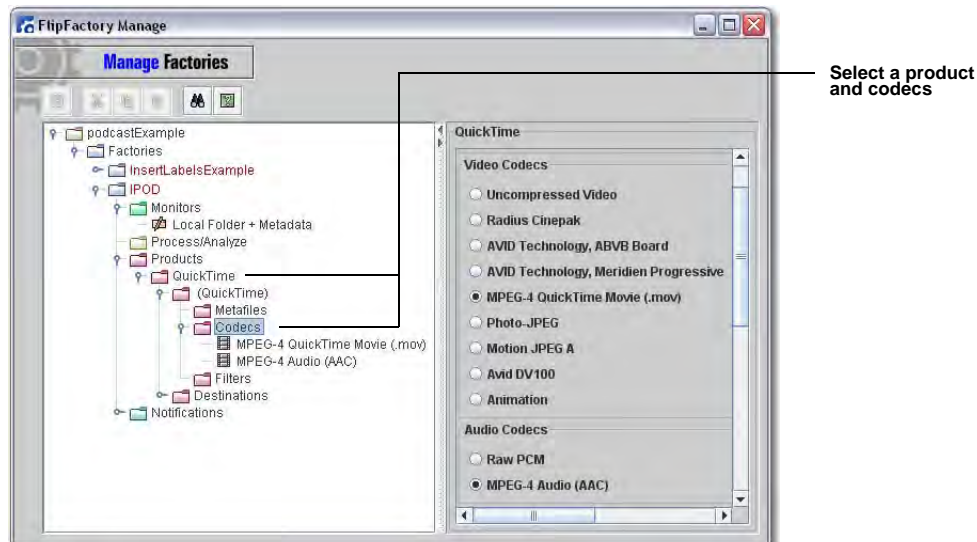
This example uses the *Podcast.xml* stylesheet, which is applied in the notification stage. To create a third party stylesheet workflow, follow these steps:

1. Create a new factory and add a *Local Folder + Metadata* monitor.

Check *Advanced* and select a *matching xml file* from the drop-down menu to cause the FlipFactory monitor to wait for an XML file (with a name that matches the input media file) before submitting the job. Select *as Metadata Label* to insert the input XML file as a label in the job message:



2. Select the *product* and *codec* to transcode the input media file. In this example a video and audio codec for QuickTime (required for Podcast workflows) is selected:

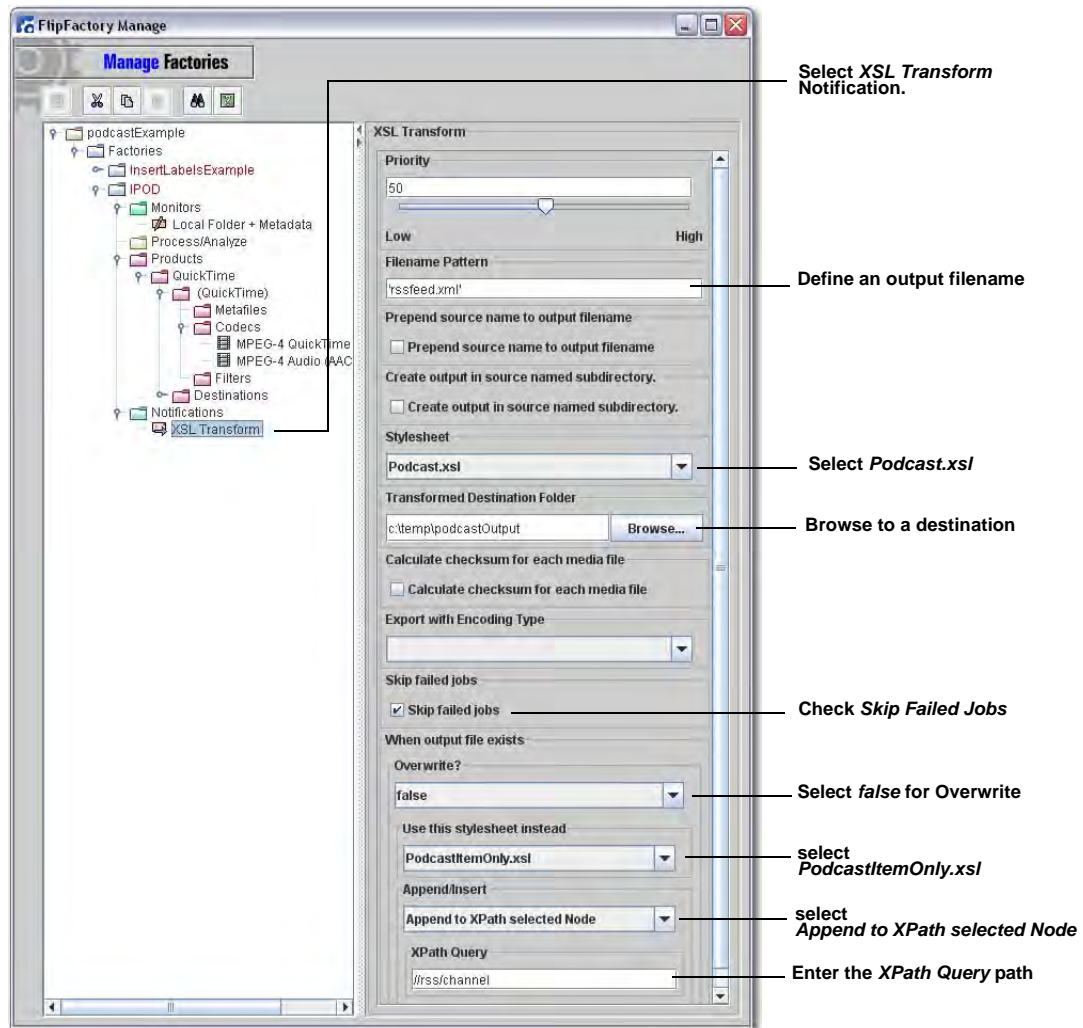




3. Select *XSL Transform Notification*. This is a general purpose notification used when producing podcasts and similar media. Define an output filename in *Filename Pattern*. Select *Podcast.xsl* as the stylesheet. This acts as a “podcast filter” for FlipFactory as it transforms the submitted XML file into an output XML file.

Browse to a destination location where the output file will be saved. Check *Skip Failed Jobs* to skip notification if the job fails, and select *false* in *Overwrite?* pull-down menu to add a numeric suffix to the XML file when the file already exists. Select *PodcastItemOnly.xsl* for a stylesheet and select *Append to XPath selected Node* for the insert.

Enter a valid XPath query in the *XPath Query* field. This inserts the metadata as a replacement of XPath selected node, where the transformed XML replaces the node specified by the XPath:



**Note:** Please consult the *FlipFactory on-line help* to determine what configuration values are needed for your particular application.

4. Add a destination to specify where the resulting media file will be saved, then submit a media and matching XML file to the monitor folder to start the transcoding process. The result is a media output file and a new XML metadata file (*rssfeed.xml*) based on the product and XSL files selected.

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FlipFactory has been designed for professionals skilled in the art of digital media transformation and workflow automation, to facilitate the automation of complex media operations and workflow that require a multitude of input and output media formats, delivery to numerous types of media devices and file systems, and notification of media systems including broadcast automation systems and media asset management systems.

The FlipFactory architecture and user interface is designed to provide maximum flexibility in the setup and configuration of these complex media transformations and workflow. In providing this high degree of flexibility, it is possible for media transformation and workflow processes to be configured that are impractical, likely to result in unexpected or unintended results, or beyond the limits of FlipFactory to perform satisfactorily. Additionally, FlipFactory may be executed on a platform that lacks the performance or capacity to perform the media transformations and workflow you've configured, which is your responsibility to specify. Telestream has chosen to implement FlipFactory to provide the greatest flexibility without limiting its functionality to only those transformations and workflow that are known with certainty to be within its performance capabilities, including those limits imposed by the platform upon which you have installed FlipFactory.

Therefore, you acknowledge that you may create transformations and workflow that are impractical or beyond your FlipFactory installation's limits, and Telestream does not warrant that each transformation or workflow you specify or use will complete without error.

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